



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/050,537 | 01/18/2002 | Yukinobu Iguchi | SON-1159/REISSUE | 7740 |

23353 7590 12/03/2002

RADER FISHMAN & GRAUER PLLC
LION BUILDING
1233 20TH STREET N.W., SUITE 501
WASHINGTON, DC 20036

EXAMINER

HAYNES, MACK NELSON

ART UNIT PAPER NUMBER

2879

DATE MAILED: 12/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,537

Applicant(s)

IGUCHI ET AL.

Examiner

Mack N. Haynes

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/914,118.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Reissue Applications

The original patent, or a statement as to loss or inaccessibility of the original patent, must be received before this reissue application can be allowed. See 37 CFR 1.178.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 51-118956.

With regards to claim 7, Figs. 10-11 of JP51-118956 disclose a cathode ray tube (72) that comprises the following: a glass bulb in which both an external surface and an internal surface of an effective display area of a faceplate (76) are substantially flat and the faceplate in the effective display area is substantially uniform in thickness; and a color selection mechanism (74) having a curvature that is projected toward the faceplate and provided opposed to an internal surface of the faceplate within the glass bulb.

With regards to claim 12, Figs. 10-11 of JP51-118956 disclose a cathode ray tube (72) that comprises the following: a glass bulb in which an external surface of an effective display area of a faceplate (76) is substantially flat and a thickness of an

effective display area of the faceplate is substantially uniform in thickness; and a color selection mask (74) having a curvature that is projected toward the faceplate and provided opposed to an internal surface of the faceplate within the glass bulb.

With regards to claim 13, JP51-118956 disclose the color selection mask having a plurality of apertures with a pitch between adjacent apertures gradually widening toward a peripheral area in a horizontal direction of the faceplate.

Claims 7 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 50-106561.

With regards to claim 7, Fig. 2 of JP 50-106561 discloses a cathode ray tube that comprises the following: a glass bulb in which both an external surface and an internal surface of an effective display area of a faceplate (1) are substantially flat and the faceplate in the effective display area is substantially uniform in thickness; and a color selection mechanism (3) having a curvature that is projected toward the faceplate and provided opposed to an internal surface of the faceplate within the glass bulb.

With regards to claim 12, Fig. 2 of JP 50-106561 discloses a cathode ray tube that comprises the following: a glass bulb in which an external surface of an effective display area of a faceplate (1) is substantially flat and a thickness of an effective display area of the faceplate is substantially uniform in thickness; and a color selection mask (3) having a curvature that is projected toward the faceplate and provided opposed to an internal surface of the faceplate within the glass bulb.

Claims 1-4, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 06-036710.

With regards to claim 1, Fig. 1 of JP 06-036710 discloses a cathode ray tube that comprises the following: a glass bulb in which an external surface (11) of an effective display area of a faceplate (1) is substantially flat and a peripheral area in the horizontal direction of the effective display area of the faceplate is thicker than a center of the effective display area; and a color selection mechanism (2) having a curvature that is projected toward the faceplate and provided opposed to an internal surface of the faceplate within the glass bulb.

With regards to claim 2, Fig. 1 of JP 06-036710 discloses the internal surface (phosphor face 3) of the faceplate of the glass bulb has a curvature that is recessed toward the color selection mechanism.

With regards to claim 3, Fig. 1 of JP 06-036710 discloses the curvature of the color selection mechanism (2) to be larger than a curvature of the internal surface (3) of the faceplate.

With regards to claim 4, Fig. 1 of JP 06-036710 discloses the curvature of the color selection mechanism is almost equal to a curvature of the internal surface of the faceplate.

Note- due to the fact that Fig. 1 discloses the curvature of the mask to be slightly larger than the curvature of the internal surface, the amount of difference between the curvature of the mask and the curvature of the internal surface of the faceplate is relatively small; thus, the curvature of the mask is almost equal to the curvature of the internal surface of the faceplate while at the same time the curvature of the mask is

Art Unit: 2879

larger than the curvature of the internal surface of the faceplate (which satisfies the condition of claim 3).

With regards to claim 10, Fig. 1 of JP 06-036710 discloses a cathode ray tube that comprises the following: a glass bulb in which the external surface (11) of an effective display area of a faceplate (1) is substantially flat and an internal surface (phosphor face 3) of the effective display area of the faceplate has a recessed curvature; and a color selection mask (2) having a curvature that is projected toward the faceplate and provided opposed to an internal surface of the faceplate within the glass bulb.

With regards to claim 12, Fig. 1 of JP 06-036710 discloses a cathode ray tube that comprises the following: a glass bulb in which an external surface (11) of an effective display area of a faceplate (1) is substantially flat and a thickness of an effective display area of the faceplate is substantially uniform in thickness; and a color selection mask (2) having a curvature that is projected toward the faceplate and provided opposed to an internal surface of the faceplate within the glass bulb.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-036710 in view of Robinder (3,873,868).

With regards to claim 5, JP 06-036710 discloses all of the limitations of claim 1; yet, JP 06-036710 does not specifically discuss the incorporation of a multiple layered resin film that is bonded to the external surface of the faceplate of the glass bulb.

However, the incorporation of multiple layered resin films that are bonded on the external surfaces of the faceplates of CRTs for the purpose of protecting the faceplate from damage due to the impact of the faceplate with another object as well as to impart the faceplates with antistatic and antireflective properties as being of common knowledge in the art as evidenced and shown by Robinder (See Figs. 1-2 as well as col. 2, lines 57-68 for example).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to bond a multiple layered resin film to the external surface of the faceplate of JP 06-036710 for the purpose protecting the faceplate by imparting impact resistance, antistatic and antireflective properties as taught by Robinder.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 51-118956 in view of Robinder (3,873,868).

With regards to claim 8, JP 51-118956 discloses all of the limitations of claim 7; yet, JP 51-118956 does not specifically discuss the incorporation of a multiple layered resin film that is bonded to the external surface of the faceplate of the glass bulb.

However, the incorporation of multiple layered resin films that are bonded on the external surfaces of the faceplates of CRTs for the purpose of protecting the faceplate from damage due to the impact of the faceplate with another object as well as to impart the faceplates with antistatic and antireflective properties as being of common

knowledge in the art as evidenced and shown by Robinder (See Figs. 1-2 as well as col. 2, lines 57-68 for example).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to bond a multiple layered resin film to the external surface of the faceplate of JP 51-118956 for the purpose protecting the faceplate by imparting impact resistance, antistatic and antireflective properties as taught by Robinder.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 50-106561 in view of Robinder (3,873,868).

With regards to claim 8, JP 50-106561 discloses all of the limitations of claim 7; yet, JP 50-106561 does not specifically discuss the incorporation of a multiple layered resin film that is bonded to the external surface of the faceplate of the glass bulb.

However, the incorporation of multiple layered resin films that are bonded on the external surfaces of the faceplates of CRTs for the purpose of protecting the faceplate from damage due to the impact of the faceplate with another object as well as to impart the faceplates with antistatic and antireflective properties as being of common knowledge in the art as evidenced and shown by Robinder (See Figs. 1-2 as well as col. 2, lines 57-58 for example).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to bond a multiple layered resin film to the external surface of the faceplate of JP 50-106561 for the purpose protecting the faceplate by imparting impact resistance, antistatic and antireflective properties as taught by Robinder.

Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-36710 in view of Shiohara et al. (5,396,145).

With regards to claims 6 and 9, JP 06-36710 discloses all of the limitations of claims 1, 7 and 10; yet, JP 06-36710 does not specifically discuss the color selection mechanism being formed of a frame and a plurality of metal fine leads that extend over the frame and the pitch of the fine metal leads is gradually widened toward a peripheral area in a horizontal direction of the faceplate.

However, CRTs having color selection mechanisms in the form of a frame and plurality of metal fine leads that extend over the frame are of common knowledge in the art as evidenced by Shiohara et al. More over, Shiohara et al. discloses the incorporation of extra apertures with a widened pitch for the purpose of maintaining uniformity of the widths of the apertures of color selection mechanism (See col. 3, lines 1-20).

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the CRT of JP 06-36710 incorporate a color selection mechanism that is formed of a frame and a plurality of metal fine leads that extend over the frame and the pitch of the fine metal leads is gradually widened toward a peripheral area in a horizontal direction of the faceplate for the purpose of maintaining uniformity of the mask and apertures during operation of the CRT as taught by Shiohara et al.

Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP06-036710 in view of JP51-118956.

With regards to claims 11 and 13, JP06-36710 discloses all of the limitations of claim 10; yet, JP06-036710 does not specifically discuss the color selection mask having a plurality of apertures with a pitch between adjacent apertures that gradually widen toward a peripheral area in a horizontal direction of the faceplate.

However, JP51-118956 discloses a CRT with the color selection mask having a plurality of apertures with a pitch between adjacent apertures gradually widening toward a peripheral area in a horizontal direction of the faceplate. More over, JP51-118956 teaches that it would be desirable to have the widening pitches toward the peripheral area in the horizontal direction of the faceplate for the purpose of reducing the position difference between the mask and screen due to doming (See the 2 page translation).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to for the color selection mask of JP06-036710 having a plurality of apertures with a pitch between adjacent apertures that gradually widen toward a peripheral area in a horizontal direction of the faceplate for the purpose of reducing the position difference between the mask and screen due to doming as taught by JP51-118956.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP06-036710 in view of Okada et al. (4,537,322).

With regards to claim 14, Fig. 1 of JP06-036710 discloses a cathode ray tube comprising: a glass bulb in which an external surface of an effective display area of a faceplate is substantially flat and an internal surface of the effective display area of the face plate has a recessed curvature, and a color selection mask having a curvature that

Art Unit: 2879

is projected toward the faceplate provided opposed to the internal surface of the faceplate within the glass bulb.

Yet, JP06-036710 does not specifically discuss the thickness T of a peripheral area in a horizontal direction of the effective display area of the faceplate is selected as $T = 1.2T_0$ to $1.3T_0$, where T_0 is a thickness of a center of the effective display area.

However, Okada et al. discloses a CRT having a faceplate having the thickness T of a peripheral area in a horizontal direction of the effective display area of the faceplate be $T = 1.2T_0$ to $1.3T_0$, where T_0 is a thickness of a center of the effective display area, for the purpose of increasing the mechanical strength of the cathode ray tube as a whole (See col. 5, lines 65-68 and col. 6, lines 53-66 of Okada et al.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the thickness T of a peripheral area in a horizontal direction of the effective display area of the faceplate of JP06-036710 be $T = 1.2T_0$ to $1.3T_0$, where T_0 is a thickness of a center of the effective display area, for the purpose of increasing the mechanical strength of the cathode ray tube as a whole as taught by Okada et al.

With regards to claim 15, Fig. 1 of JP 06-036710 discloses the projected curvature of the color selection mask (2) to be larger than a curvature of the internal surface (3) of the faceplate.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP06-036710 in view of Okada et al. (4,537,322) as applied to claim 14 above, and further in view of JP51-11.

Art Unit: 2879

JP06-36710 discloses all of the limitations of claim 10; yet, JP06-036710 does not specifically discuss the color selection mask having a plurality of apertures with a pitch between adjacent apertures that gradually widen toward a peripheral area in a horizontal direction of the faceplate.

However, JP51-118956 discloses a CRT with the color selection mask having a plurality of apertures with a pitch between adjacent apertures gradually widening toward a peripheral area in a horizontal direction of the faceplate. More over, JP51-118956 teaches that it would be desirable to have the widening pitches toward the peripheral area in the horizontal direction of the faceplate for the purpose of reducing the position difference between the mask and screen due to doming (See the 2 page translation).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to for the color selection mask of JP06-036710 having a plurality of apertures with a pitch between adjacent apertures that gradually widen toward a peripheral area in a horizontal direction of the faceplate for the purpose of reducing the position difference between the mask and screen due to doming as taught by JP51-118956.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mack N. Haynes whose telephone number is (703) 308-5460. The examiner can normally be reached on Mon-Fri., 9:00a.m.-5:00p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

Art Unit: 2879

308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



MNH

November 7, 2002



MICHAEL H. DAY
PRIMARY EXAMINER